

Amendments to the Specification (other than claims):

Please replace paragraph beginning at page 13, line 9, which starts with "As shown in FIG. 1," with the following amended paragraph:

As shown in FIG. 1, an etching device 1 is formed from ceramic and is equipped with: a case-shaped etching chamber 2 within which is formed an etching chamber 2a; a base 3 disposed below the etching chamber 2a and on which is mounted the silicon substrate S to be etched; a gas supply unit 7 supplying the etching gas and the protective film forming gas into the etching chamber 2a; a ~~decompression~~ pressure-reduction unit 13 ~~decompressing~~ for evacuating the etching chamber 2a; a plasma generating unit 15 forming plasma from the etching gas and the protective film forming gas supplied to the etching chamber 2a; a high-frequency power supply 18 providing high-frequency power to the base 3; and a control device 20 controlling the actions of these units.

Please replace paragraph beginning at page 14, line 22, which starts with "The control device 20 is formed from," with the following amended paragraph:

The control device 20 is formed from: gas flow-controller~~means~~ 21 controlling the mass-flow controllers 11, 12 to adjust the flow of gas supplied by the gas cylinders 9, 10 to the etching chamber 2a; coil power controlling~~means~~ 22 controlling the high-frequency power applied to the coil 16; and base power controlling~~means~~ 23 controlling the high-frequency power applied to the base 3.

Please replace paragraph beginning at page 15, line 15, which starts with "Gas flow controlling means 21," with the following amended paragraph:

Gas flow controlling ~~ing means~~ 21 controls the respective flows of the SF_6 gas and of the C_4F_8 gas in the following manner, such that, As shown in FIG. 2 (a), the flow of the SF_6 gas into the etching chamber 2a changes as a rectangular waveform from V_{e2} to V_{e1} , and such that, as shown in Fig. 2(b), The flow of the C_4F_8 gas changes as a rectangular waveform from V_{d2} to V_{d1} , whereby the phase of the SF_6 gas and phase of the C_4F_8 gas are the inverse of each other.

Please replace paragraph beginning at page 15, line 19, which starts with "Coil power controlling means 22," with the following amended paragraph:

Coil power controlling ~~ing means~~ 22 and base power controlling ~~ing means~~ 23: change the high-frequency power applied to the coil 16 to a rectangular waveform varying between W_{c2} and W_{c1} , as shown in FIG. 2 (c); change the high-frequency power applied to the base 3 to a rectangular waveform varying between W_{p2} and W_{p1} ; and provide control so that the phase of the high-frequency power applied to the coil 16 and the phase of the high-frequency power applied to the base 3 are the same.

Please replace paragraph beginning at page 22, line 11, which starts with "FIG. 4 shows," with the following amended paragraph:

FIG. 4 shows, for the embodiment and the comparative example, the etching rate, the mask selection ratio, and the dimensional characteristics of the hole formed on the silicon substrate by etching. The etching rate is expressed as etching depth

per minute, and higher values are preferred. The mask selection ratio is the ratio between the silicon (Si) etching depth and the mask (SiO_2) etching depth, i.e., mask selection ratio = Si etching depth/ SiO_2 etching depth. High values are preferred. The unevenness ρ (nm), as shown in FIG. 3, expresses the depth of the unevenness formed on the side walls of the hole. Lower values are preferable. The hole side-wall angle θ (deg) expresses the angle relative to the horizontal plane (corresponds to the bottom surface of the silicon substrate). Values close to 90 deg are preferable here. The figure also shows the silicon substrate S, a mask 31, and a hole wall surface 32.